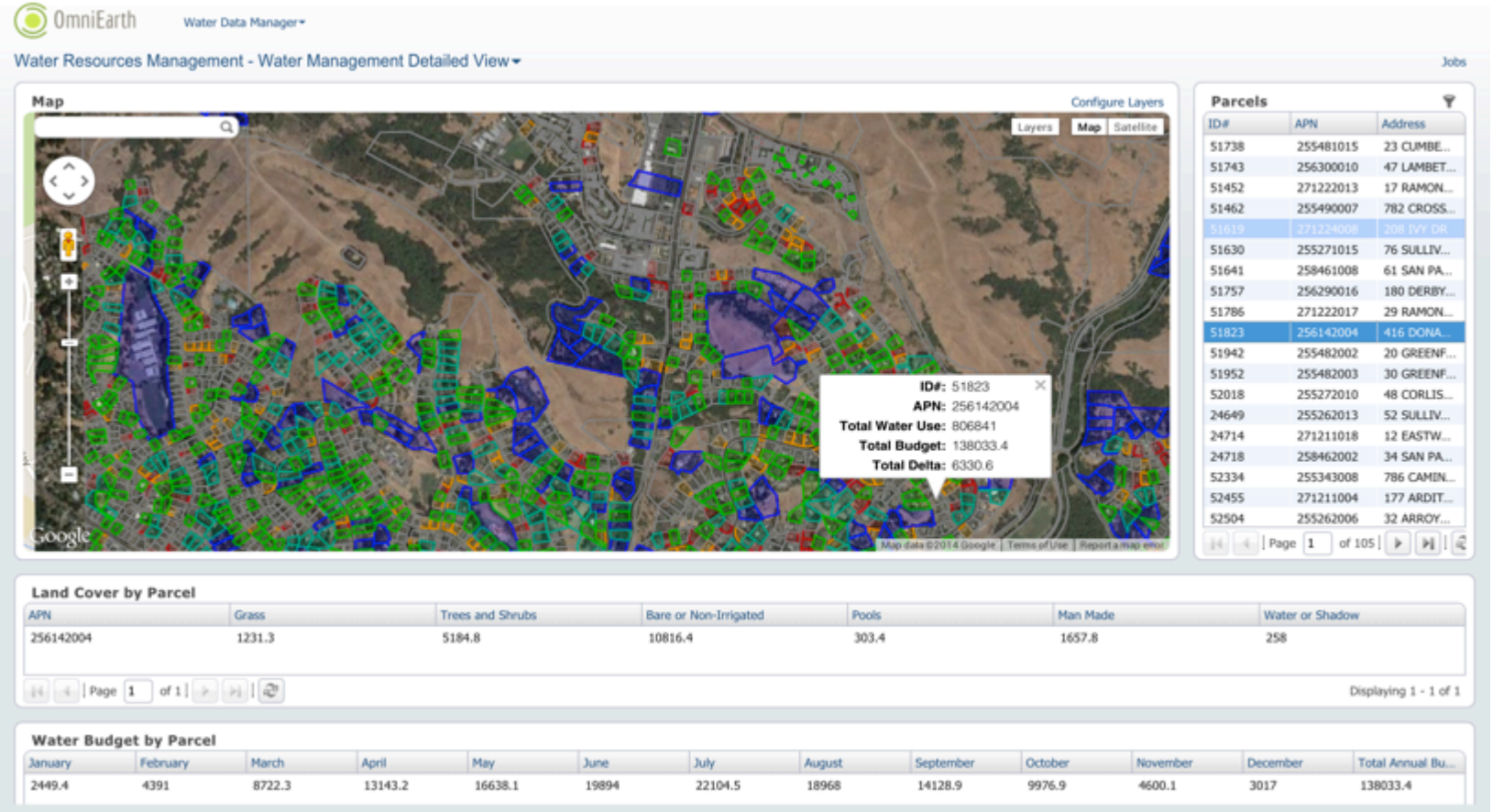
Landscape Efficiency Metrics

- Offices in Arlington, VA, Boston, MA and Costa Mesa CA
- Satellite and GeoAnalytics Company with over 300 staff years of experience in Earth and Data Sciences
- 25 Staff members, scientists and engineers, 6 Ph. D.s
- Advisory Board including Former NASA Head, National Laboratory Head, and Fortune 100 Industry Executives
- Founded with the mission that science and data driven decisions improve outcomes for business and government

251 18th Street South – Suite 650, Arlington VA 22202 | 1-888-838-6318

Confidential – For Discussion & General Information Purposes Only

Landcover assessments



- Automated **Land cover assessment**
- Parcel by parcel **Turf, Impervious, Tree, Shrub, Water Budget Calculation**
- Individual **water use efficiency sorting and** contribution to the district roll-ups
- GIS based District Management Web-based dashboards and automated reporting

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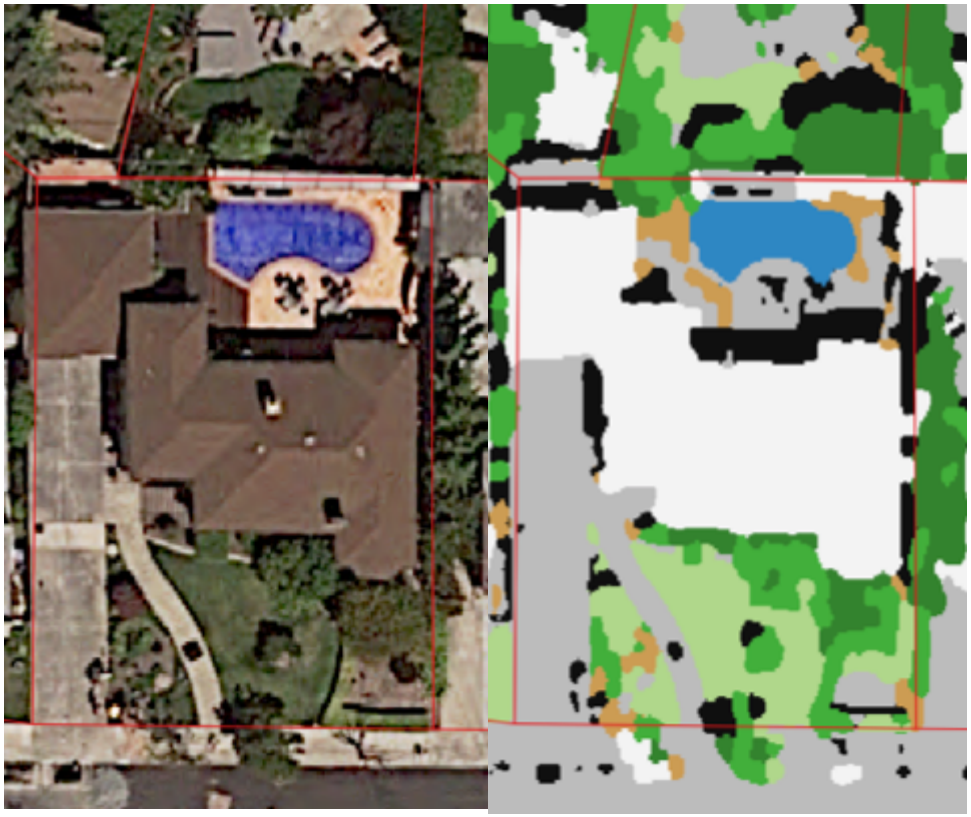
Example of OE Land Cover Assessment

- OmniEarth's method classifies irrigated versus non-irrigated land cover to 96% accuracy per parcel.
- This precision analysis enables a water budget for every parcel
- Accuracy is calculated by comparison to manual classification of *control* sets.
- Errors driven by similar features present in imagery, shadows, Parcel data errors. ET errors
- Slope and parkway/blvd's are accounted for



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Example of OE Land Cover Assessment

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Landscaped Area Water Use Calculations

Land Cover Class Results Layer:

Turf/Grass, Man-made, Non--irrigated (Bare), Water bodies, Pools, Shrubs/Trees, Artificial Turf (Optional)

Landscape Area Calculations:

- Includes: Irrigated landscaped area served by residential or landscape meter
- Excludes: CII connections, non-irrigated landscape, buildings or structures, sidewalks, driveways, parking lots, non-irrigated

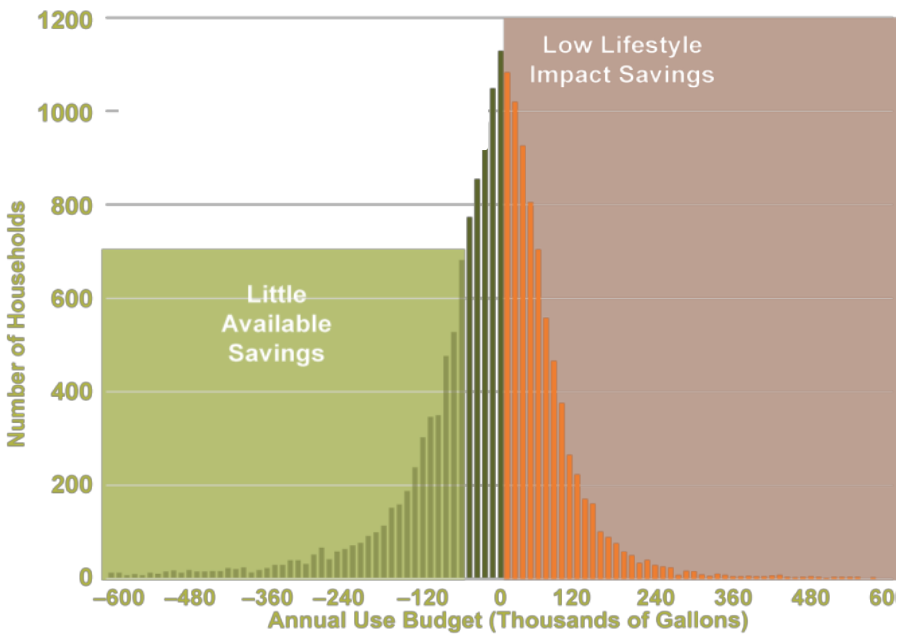
Water Budget by Parcel Calculation:

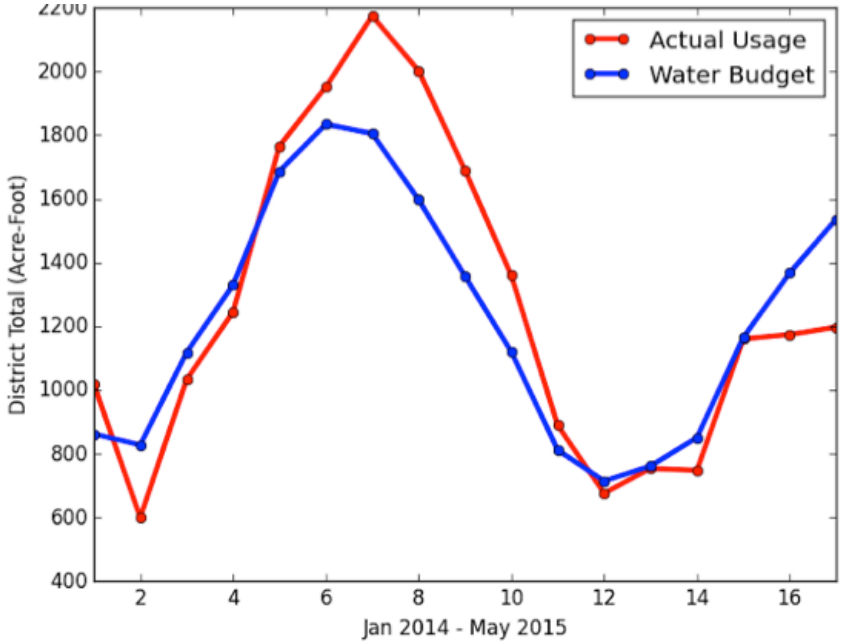
- DWR equation using ET rates from CIMIS
- California Model Water Efficient Landscape Ordinance (MWELO), SB x7-7 and AB 1881
- **Efficiency Standard** = (# residents) (55 gpcd) + **(ET) (Landscape Area) (.8)**

Efficiency Sorting from Individual to District

- Comparison (in gallons, ccf and gpcd) between actual and budgeted use
- Vector layer highlighting users with largest delta

District Wide Analysis





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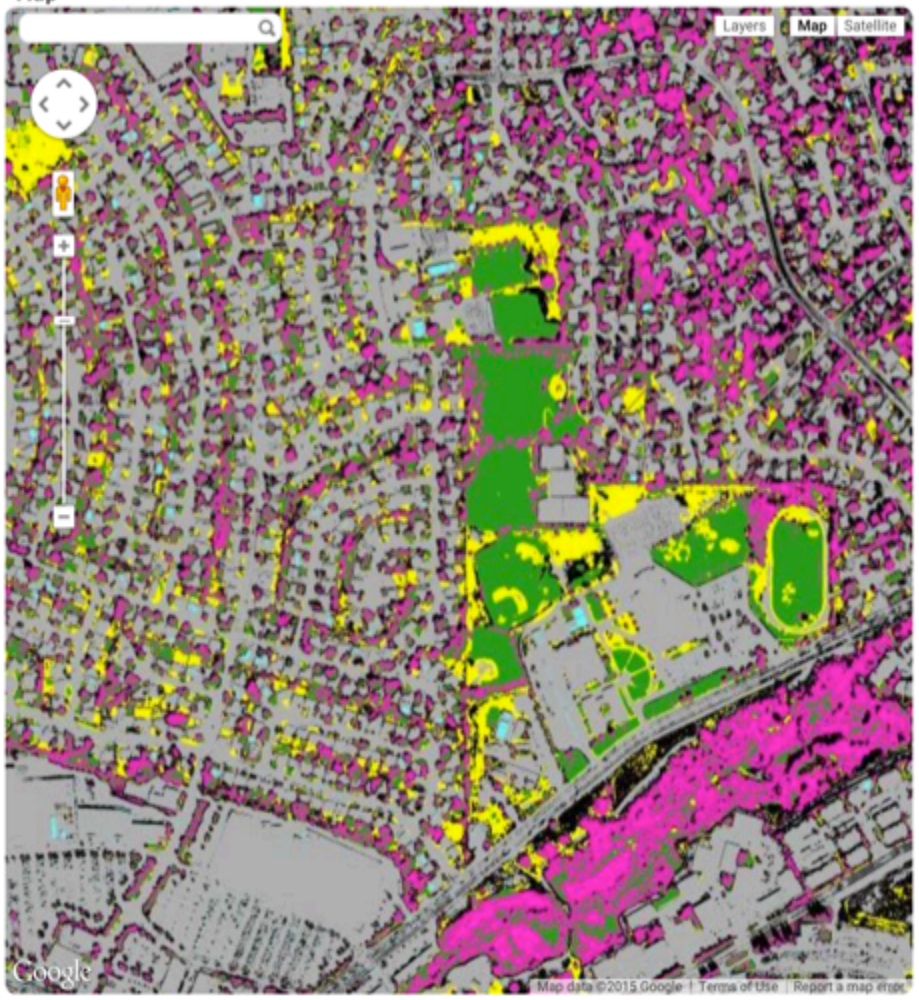
Dashboard Example

SFR Water Usage by Parcel

Map



Delta by Parcel (SFR)

Page 1 of 1 | Displaying 1 - 17 of 17

Parcels - SFR High Consum...

ID#	ADDRESS	Total_Delt
070010200400...	909 FIGUERO...	-140.3
071020004000...	101 JAMIE LN ...	-354.1
213062001600...	125 DEERWO...	-549.2
213062001700...	115 DEERWO...	-268.2
213062001800...	105 DEERWO...	-343.7
213062001900...	122 COBBLEO...	-379.9
213062002000...	124 COBBLEO...	-163.3

Page 1 of 354 | Displaying

Water Budget by Parcel (SF...

Month	Year	Value (CCF)
May	2015	55.3
April	2015	46.7
March	2015	36.2
February	2015	20
January	2015	15.4
December	2014	13
November	2014	18

Page 1 of 1 | Displaying 1

Delta by Parcel (SFR)

Month	Year	Value (CCF)
January	2014	-14.6
February	2014	-15.8
March	2014	-29.6
April	2014	-37
May	2014	-53.8
June	2014	-54.8
July	2014	-52.4

Page 1 of 1 | Displaying 1

Water Meter Actuals by Par...

Month	Year	Value (CCF)
May	2015	0
April	2015	7.8
March	2015	8.1
February	2015	7.1
January	2015	4.4
December	2014	5.5
November	2014	8.2

Page 1 of 1 | Displaying 1

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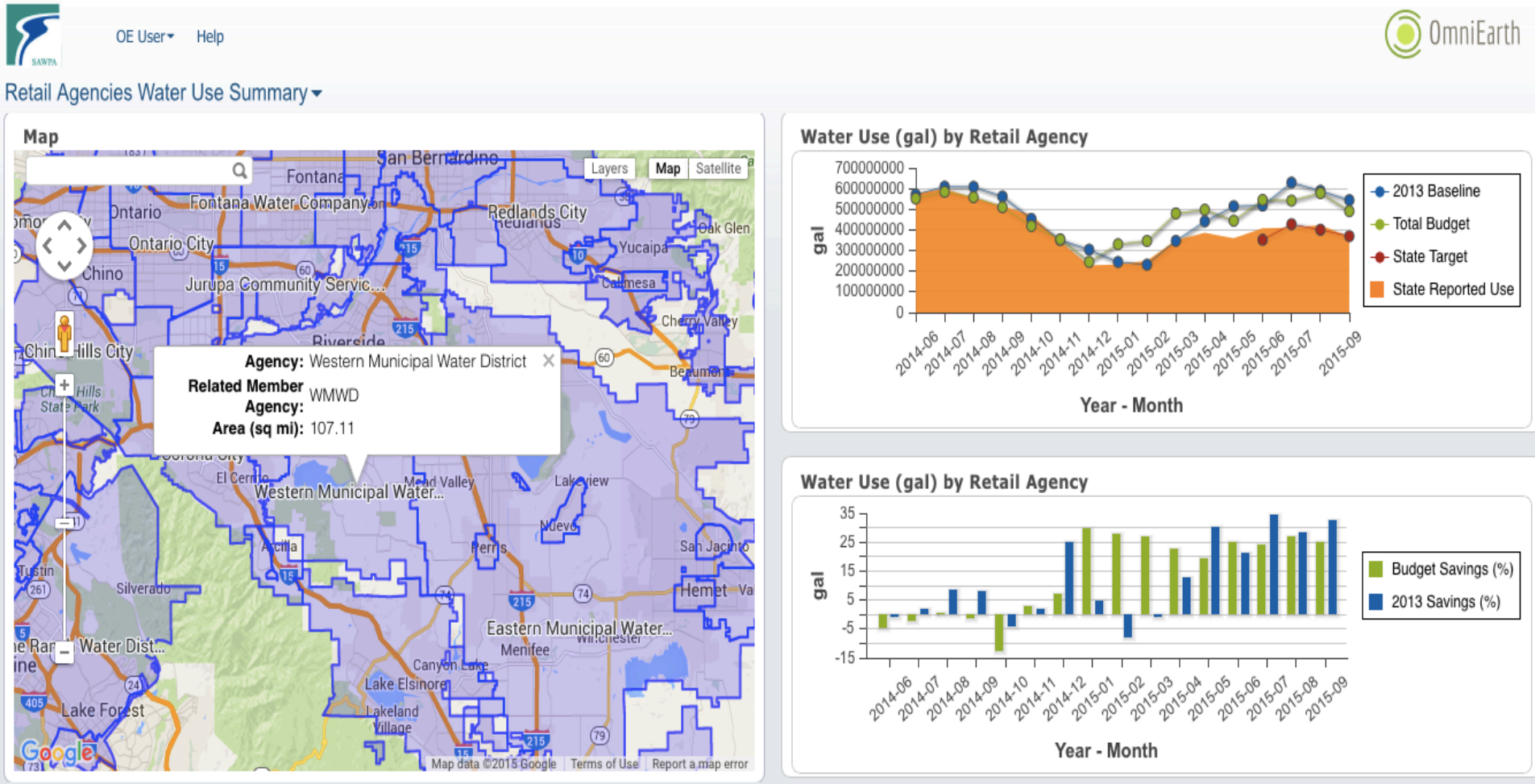
District Roll-ups



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